MECHANICAL PROPERTIES OF LAMINATED VENEER LUMBER (LVL) MADE FROM SECONDARY QUALITY OAK AND BEECH

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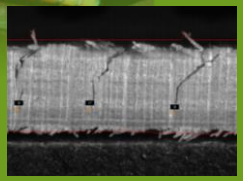

- Introduction
  - Secondary quality hardwood contain defects → firewood or particle for wood-based panels
  - LVL→ disperse defects thus provide higher mechanical properties.
  - Thinner veneer distribute the defect better thus gives better strength → requires much more glue.
  - Increasing veneer thickness decrease glue consumption.
- Objectives
  - Study the relationship of wood, veneer and mechanical properties of LVL
  - Find the adapted veneer thickness that gives optimum mechanical properties.
  - Compare MOE measured using non-destructive measurements with destructive testing.
- Methodology
  - Radial Characterization → MFA , ring width & density
  - Qualities of fresh veneers → lathe checks depth and distance between lathe checks.
  - LVL → Three type of veneer thickness, polyvinyl acetate (PVAc) as adhesives.
  - Mechanical properties → Dynamic (MOE & shear modulus) and static (MOE & MOR).